

# **ANARCHIST PRIMARY EXPLOSIVES MANUAL**

**2025-02**

# # Intro

The following are instructions for the manufacture of four primary explosives.

**FUCKING AROUND WITH THESE WILL GET YOU AND PEOPLE AROUND YOU KILLED.** However, it is the author's opinion that the current situation calls for (or may call for soon) the use of explosive devices against "Fortress" Europe and the USA. **BUT DO NOT FUCK AROUND WITH THEM. TREAT EXPLOSIVES WITH CARE AND CAUTION.**

These four compounds were chosen because they are relatively stable. They are not highly shock or friction sensitive but they are sensitive to electricity and flame, which is a desirable quality for an explosive, as that makes it safer to transport and easier to use.

If you have explored explosives before you have probably come across the US Army Improvised Explosives Manual. The manual is outdated in many ways especially the primary substances. A lot of the precursors are no longer easily available/unavailable at all. The primary substances are also extremely sensitive and dangerous, which often results in accidental detonation and accidental injuries, arrests, or deaths.

Primaries are substances that are easy to detonate. Most explosives, ANFO, C4, etc. are not very sensitive. So a primary substance concentrated into a "det cap" is often used to initiate the explosion. Because primaries are more easy to detonate they can often be quite dangerous as they are more unstable. **This guide is an attempt to make "safer" (relatively) primaries that will hopefully result in less injured, arrested, or dead anarchists.** Of course you can still end up dead if you fuck around with them so again: ***please treat these substances with care and caution.***

If you buy any chemicals use cash. Buy them weeks to months in advance. Do not plan to make a bomb over a weekend. Take your time, refine your method and synthesis. Slow is smooth, smooth is fast. Better to have a successful attack a year from now than to have you, or the people around you, arrested, disabled or dead tomorrow. A free anarchist is worth more than a martyr.

Follow similar rules to firearms: Always assume an explosive is ready to detonate. Careful where you put it; do not place it anywhere you would regret it exploding. Always keep it away from flames, electricity, shock, and friction. Be sure of your target and what is around it.

## ##How to use this guide

This guide is arranged into three sections. The primaries section contains the recipe for each primary explosive. There are two precursors section. "A" precursors can be bought quite easily (or need to be bought because synthesizing them is hard). Some can also be synthesized (marked with a \*). "B" precursors have to be synthesized, as buying them is difficult or leaves quite a paper trail (like online purchases from chemical suppliers). Some of the precursors have a colored # # # next to them to identify what explosive they are for.

These primaries and their processes are available online, you can verify information of them on forums and video sites using Tor, or better yet Tails-Tor. Look up the methods described to be able to fully understand what you're doing.

Some of the information in this guide, like electrolysis, is kept purposefully vague as an attempt at a roadblock for people who are not serious or will not take adequate precautions. However overall this guide can be followed closely and result in explosive substances.

## # Primaries

### ## CHP

Copper hexamine perchlorate

#### ### Ingredients

**2.7g copper oxide (powdered)** - Precursor A19

**30g 25% ammonia solution** - Precursor B1

**1.5g hexamine (powdered)** - Precursor B2

**10g ammonium perchlorate (powdered)** - Precursor B4.4

#### ### Instructions

1. Mix powders together.
2. Prepare ammonia solution, then pour in mixed powders.
3. Place container holding the mixture into a water bath between 50-60C for 10-20 minutes. Mix occasionally.
4. Once the mixture is dark blue stop heating the water bath and let cool until it reaches room temperature (20C).
5. Once cooled remove it from the water bath and put it into the freezer. **!!This is now an explosive!!**
6. When the water is light blue remove from freezer and filter the solid. You will need a metal filter because a strong acid (Schwartz reagent) is formed. You can use vacuum filtration to suck out all the liquid.
7. Pour the filtered solid into a pan and heat at 30C for 10 minutes to dry the crystals.
8. Put into a seal-able container (plastic tuper works). The results should be about 10-11g.
- (Bonus) 9. If you boil the liquid you can get ammonia gas (which you will have to pipe into water to keep it) and some unreacted copper oxide, both of which you can recycle to make more CHP.

### ## KSH

Potassium chlorate, sulfur, hexamine

#### ### Ingredients

**7g potassium chlorate (powdered)** - Precursor B4.2

**1.5g sulfur (powdered)** - Precursor A1

**1.5g hexamine (powdered)** - Precursor B2

**75mL distilled water** - Precursor A12

**25mL ethanol** - Precursor A8

#### ### Instructions

1. Heat stainless steel pan to 100C.
2. While heating mix the three precursor powders with the water and ethanol.
3. Pour mix onto the heating steel pan.
4. Heat until the liquid boils off while grinding the powders together until they are dry and fine. **!!This is now an explosive!!**
5. Put powder into a seal-able container.

## ## iNAP

Isopropyl nickel aminoguanidine diperchlorate

### ### Ingredients

1g aminoguanidine bicarbonate (powdered) - Precursor B5.3

0.86g ammonium perchlorate (powdered) - Precursor B4.4

0.43g nickel carbonate - Precursor A20

35mL isopropyl alcohol - Precursor A7

### ### Instructions

1. Mix powders well at room temperature.
2. Heat isopropyl alcohol to a boil in a separate container.
3. Once boiling dump in all reagents. Cover the container to "reflux" the boiling mix. If using a magnet stir bar it will mix the solution. Otherwise you will need to manually stir by removing the lid. The reaction will go from turquoise to muddy to salmon. Reaction time takes 5 minutes. Do not heat above 200C at any point.
4. Cool until it reaches room temperature. **!!This is now an explosive!!**
5. The solution will need to be filtered by pouring it onto a coffee filter. Get rid of the liquid and keep the salmon-colored solid.
6. Dry the coffee filter and solid (can use a dehydrator, toaster oven, or kitchen pan on stove on low).
7. Once dry remove the solid off the coffee filter and put it into a seal-able container.

## ## NHN

Nickel hydrazine nitrate

**!!WARNING!! Hydrazine and nickel nitrate are both carcinogenic and potentially lethal. Wear eyewear and a chemical mask when conducting this synthesis.**

### ### Ingredients

2.6g nickel oxide - Precursor A18

6.5g 96% nitric acid - Precursor B6

30mL hydrazine - Precursor B8

10mL distilled water - Precursor A12

1-2g dextrin - Precursor B3

### ### Instructions

1. Add nickel oxide to a container and then add nitric acid to the same container.
2. Heat the solution on medium heat until all the nickel oxide is dissolved and creates a turquoise-emerald solution. This is a nickel nitrate solution.
3. Add hydrazine to a second container with the distilled water and the dextrin and heat it to 60C.
4. Slowly pipette and add the nickel nitrate solution into the hydrazine. You will see it first form a blue solid that will quickly turn lavender. Keep adding nickel nitrate solution until no more lavender solid forms and there is a thin layer of the emerald nickel nitrate on top of the purple solid. **!!This is now an explosive!!**
5. Filter off the liquid by pouring the solution onto a coffee filter. Get rid of the liquid.
6. Dry the coffee filter and solid (e.g. can use a dehydrator).
7. Once dry remove the solid off the coffee filter and put it into a seal-able container.

## # Blasting caps

Blasting caps are necessary for detonating secondary explosives, which are made in larger quantities.

**1g** of **CHP** and **KSH** works for a quite powerful blasting cap.

**0.1g or less** is viable for **iNAP** and **NHN**.

Place it into a metal cylinder (say an emptied and cleaned bullet casing) and tamp 1/4 (by weight) hard pressure, 1/2 bw medium, 1/4 weak. (i.e. 250mg hard, 500mg medium, 250mg weak for 1g CHP.) Tamp it down with a wooden rod, ideally on the end of a lever device. On top of the explosive add 1/4 by weight of smokeless or black powder (or until you fill the cylinder). Add a fireworks fuse or an electric match into the middle of the black powder/smokeless powder, seal the cylinder around the fuse (by crimping the metal) and you have a blasting cap.

You can buy a fireworks fuse, or make one by making black powder (look it up) and coating a string with it. You can also do this with potassium nitrate and sugar (look it up).

You can make an electric match by taking a wire, splitting it (or using two wires) and gluing a small piece of steel wool (from a steel wool dish cleaner) to each end of the wire, forming a bridge. Coat the exposed wires and piece of steel wool in ground up match heads, black powder, or smokeless powder (which you can adhere using **dextrin - B3**). The other end of the wire is then connected to a switch and a battery or left unconnected until you touch both ends to either end of a battery, generating current and lighting the matchhead.

Sometimes you will want to guarantee a detonation. In this case do not use a bigger blasting cap but multiple blasting caps, as this doubles or triples your chance of a successful ignition. If you fail to ignite the size of your blasting cap does not matter.

## # Acquire-able Precursors

### ## A1 - Sulfur ##

Sulfur can be bought as a gardening supply though it usually is contaminated with bentonite clay. It can be purified by dissolving the mixture in hot **toluene or xylene** - **A23** and then cooling it so that sulfur precipitates out.

It can also be bought from chemical suppliers though this route leaves a big paper trail if bought online.

### ## A2 - Formaldehyde / Paraformaldehyde

Formaldehyde solution can be bought as "formalin" at agricultural and veterinary stores where it is sold as disinfectant. It can also be bought online.

Paraformaldehyde can be bought online.

### ## A3\* - Urea / Carbamide

Urea can be purchased as fertilizer, usually under the name "carbamide". It's fertilizer number is 46-0-0. It is often coated in another substance (sulfur coated urea is 36-0-0) and so will need to be dissolved in water and recrystallized (and you get sulfur!).

Urea can be found in non-toxic cold packs (different from **ammonium nitrate** - **A4** cold packs).

Urea can be synthesized from urine. *Why* you would do that is beyond this author but have at it you DIY punk freaks. What would be cooler than blowing up a cop with your own piss?

### ## A4\* - Ammonium Nitrate

Ammonium nitrate can be found in a relatively pure form in instant cold packs. It is the solid spheres in them.

Ammonium nitrate can be found as fertilizer but quite rarely in 2025. At least not in a pure form and recrystallizing it can be a pain. If you ask for ammonium nitrate at a hardware store you will likely get odd looks.

Ammonium nitrate can also be synthesized by nitrating **ammonia solution** - **B1** with **nitric acid** - **B6**. Begin with **25mL of 5% ammonia solution**. Add cold **nitric acid** slowly to prevent the reaction from heating up too much. It will fume slightly. Add nitric acid until the solution neutralizes at pH7. Heat the solution until 3/4 of it evaporates. Cool the solution and crystals will form. Decant (i.e. pour off) the excess water and you have ammonium nitrate.

### ## A5 - Sodium Bicarbonate (baking soda)

You can buy baking soda at your local grocery store.

### ## A6 - Sodium Hydroxide (Lye)

You can buy sodium hydroxide (lye) at most grocery and hardware stores as a drain cleaner. Make sure you get pure lye, as it is often mixed with other things. You *do not* want it to be mixed with aluminum powder, as Al can be quite reactive with other compounds especially explosives.

### ## A7 - Isopropyl Alcohol ##

You can buy this at most grocery stores, hardware stores, even convenience stores.

### ## A8 - Ethanol Alcohol ##

You can buy this at most grocery stores and hardware stores.

## **## A9\* - Zinc (powder) / Zinc oxide**

Zinc can be acquired by melting US pennies made after 1982. You will get zinc and copper. Destroying coins is illegal but you're reading an explosives manual made by an anarchist for anarchists. After melting it you will have to powder it which can be done with a lot of grinding. The copper plating can also be used for **copper oxide - A19**.

Zinc can be found on fencing. A lot of modern chain-link fence on construction sites and such is iron coated with zinc for rust protection. Since zinc melts relatively low (420C) you could get a bunch of this fencing, put it in a furnace and melt the zinc right off. Talk about punk DIY. You can grind the resulting metal for the powder.

Zinc Oxide can be found at pottery stores. When mixing zinc oxide powder and carbon powder, and heated at 400C (can be done with a blowtorch) you get zinc powder and carbon monoxide. Do this outside.

## **## A10\* - Ammonium Sulfate**

Ammonium sulfate can be bought as fertilizer for lawns. Its fertilizer number is 21-0-0.

## **## A11 - Calcium Hydroxide**

Also known as "hydrated lime" or "builders lime" calcium hydroxide can be bought as fertilizer or as an additive for concrete and cement.

## **## A12 - Distilled water ## ##**

Can be bought in grocery stores, usually for things like ironing. Can also be made through distillation of tap water for you DIY hardcore kids.

## **## A13 - Silica gel**

Silica gel packets can be found at hobby stores. It's those small packets you find in new clothes.

Silica gel can be found as cat litter, usually mixed with perfume or other things that can be manually removed (before your cat pisses in it).

## **## A14 - Sodium Hypochlorite (bleach)**

Bleach can be found a lot of places. Make sure you are buying sodium hypochlorite bleach, as there are multiple types. You can also buy pool bleach which is extra concentrated compared to household cleaning bleach.

## **## A15 - Sodium Chloride (table salt)**

Sodium chloride can be bought a lot of places.

## **## A16 - Potassium Chloride**

Potassium chloride can be bought as table salt "lite" at many grocery stores (though you may have to go to bougee ones to find pure potassium chloride as a lot of it is mixed half and half with sodium chloride) and as a water softener salt at hardware stores (in bulk quantities).

## **## A17 - Corn starch**

Grocery store! (Also called corn flour in Europe.)

## **## A18 - Nickel Oxide ##**

Nickel oxide can be found at ceramic stores.

## **## A19\* - Copper Oxide ##**

Copper oxide can be found at ceramic stores.

Copper oxide can also be made by electrolysis of copper metal. Prepare a salt-water solution. Add a cathode and anode of copper and connect a car battery charger to each side (or your preferred power source). Turn on the power supply and immediately you will see hydrogen being produced. The copper anode will slowly "melt" away creating copper hydroxide (as well as copper oxide). After four to five hours turn off the power and let the solid in the salt water settle. Filter the solution with a coffee filter. Keep the brown solid (that is copper hydroxide and some copper oxide). Dry out the filter paper and copper oxide. Transfer the dry powder into a crucible and using a small butane torch or lighter you can oxidize the copper hydroxide by simply burning it with the open flame. You will have a black powder that is copper oxide.

## **## A20 - Nickel Carbonate ##**

Nickel carbonate can be found at ceramic stores.

## **## A21 - Gelatin**

Sorry vegans! Gelatin can be found at grocery stores and food hobby stores.

## **## A22 - Toluene / Xylene**

Both of these are common solvents available at hardware stores. Toluene can be bought as paint thinner, usually mixed with other liquids. It can also be found in shoe repair shops. Xylene is also bought as paint thinner, usually mixed with some other liquids. Neither of the impurities should matter much for separating out sulfur from bentonite clay.

## **## A23 - Potassium Nitrate**

Potassium nitrate is easily available as stump remover.

It can be synthesized from hard wood ash, but why?

## **## A24 - Epsom bath salts (magnesium sulfate)**

Epsom salts are available at many pharmacies, department and grocery stores.

## **## A25 - Calcium hypochlorite (pool bleach)**

Pool bleach can be found in solid tablets or liquid form, though the solid is preferred.

## **## A26 - Hydrochloric acid**

Hydrochloric acid is easily available as "muriatic acid" used for concrete. It can be used without purifying or purified in the following method: Fill a container with **100mL muriatic acid** and another with **100mL distilled water - A12**. Leave both uncovered but place them into a larger covered container. Seal the container and then leave for a day or four. The hydrochloric acid will travel through chemistry magic from the muriatic mix into the distilled water until it achieves equilibrium.

## **## A27 - Acetone**

Can easily be bought at a hardware store. The ACE brand is known for being very pure, although to be quite honest you don't really need to purify it (fuck you real scientists). It usually has a couple of additives that can fuck with chemistry, but unless you're making something to ingest it should be fine (do not eat anything you make in this guide what the fuck).

# # Synthesized Precursors

## ## B1 - Ammonia solution ##

Ammonia solution can be bought, but it is in too low of a concentration (3-10%) and these reaction needs 25% solution (or more). Concentrating it is possible. Place the ammonia solution into a container that can be heated and that has two outputs (you can modify any container that has a lid by drilling two holes into the lid). One output will have an aquarium pump pumping air in, the other will lead the ammonia gas out. Place the output end (e.g. end of a tube) into container that has water. Make sure that the end of your tube is at the bottom of the water. Heat the container with the less concentrated ammonia solution. Do not boil the water or your solution will be less concentrated. If your container cannot handle direct heat (e.g. a mason jar or plastic container) a hot water bath is fine. The ammonia will boil off and concentrate into the water. For better yields place the receiving water in an ice water bath, and seal the receiving container so that ammonia does not evaporate off. To be successful in your concentration you have to make sure that the ratios are correct. If you have 10% ammonia solution and you want to concentrate it to 20% then you will need **200mL of the store-bought solution** and **100mL of distilled water** - A12 in the receiving container, etc.

Ammonia can also be made through mixing chemicals: **ammonium sulfate** - A10 and **calcium hydroxide** - A11 are mixed in **distilled water** - A12 they form a solution of ammonia and calcium sulfate. Weight the **ammonium sulfate** and **calcium hydroxide** out in a 1:1 molar ratio. If you cannot figure out what a mole is put this guide away. By copying the setup above you can boil off the ammonia and water and collect it in a new beaker. This will yield quite concentrated ammonia, up to 30%. A difference from the first solution however is that you *do* want to boil the ammonia and calcium sulfate solution so as to collect all the water. Distillation equipment, or improvised distillation equipment, is a must for this.

## ## B2 – Hexamine ##

Hexamine can be bought as emergency fuel solid tablets at camping stores. However, they are not always easy to find. They are more easily available online but this leaves a large paper trail. If you manage to buy them you will have to dissolve them in water to remove the wax and paper coverings and recrystallize the hexamine by cooling the solution and filtering it.

Hexamine can also be made by reacting **ammonia solution** - B1 with **formaldehyde/paraformaldehyde** - A2.

When using **paraformaldehyde** weigh out **180g** and add **300g of ammonia solution**. You want an excess of ammonia to react with all the paraformaldehyde because ammonia is stinkier but easier to get rid of when unreacted. The mixture will heat up. Let it cool to room temperature before boiling and stirring until all the paraformaldehyde is dissolved. Boil it for about ten minutes longer to ensure all the paraformaldehyde has reacted. Pour it into a tray to let the ammonia and water evaporate while the mixture cools. Hexamine will crystallize and remain.

When using formaldehyde you can use **30mL of 37% formaldehyde solution** and **50+mL of 25% ammonia solution**. You will know there is more ammonia than formaldehyde if you are able to stand far away and smell the ammonia (which means it is in excess). Always ensure ammonia is in excess for making hexamine. Once the mixture of the liquids cools then you can boil off the excess water until it appears cloudy. From there let it cool again and then put into a tray to let the rest of the water and ammonia evaporate.

## ## B3 - Dextrin ##

Dextrin can be made very easily. Pour out **corn starch - A17** onto baking paper on a baking tray. Any amount will do. Bake it at 230C for a few hours. It will change color from pure white to a brownish yellowish powder. Mix it every half hour to get an even bake. Once it is golden-ish, about 5 hours in if you use an entire container of corn starch, you have dextrin.

## ## B4.1 - Sodium Chlorate

There are three ways to make sodium chlorate. The first is from **sodium hypochlorite - A14** through thermal decomposition (i.e. heating). The second is from **calcium hypochlorite - A25** also through thermal decomposition. The third is through electrolysis of **sodium chloride - A15**.

Note: **sodium chlorate** is extremely hygroscopic (will absorb water moisture from air). It must be kept sealed in an airtight container and if stored for too long might have to be dissolved in water and recrystallized.

For the first method you will need a heat source, a battery hydrometer, a large glass or metal container. Weight out **one gallon (3.785L) of sodium hypochlorite (bleach) - A14** into the container and begin to heat it. Bring it to a boil. When the hydrometer reads 1.3 (or in the case of a battery hydrometer it will read "full charge") remove it from the heat source and cool it to between room temperature and 0C. Filter out the crystals and repeat the boiling and cooling process three times total. This will be sodium chlorate. You can add these crystals to **distilled water - A12** until they are fully dissolved by mixing, boil the solution and allow it to cool again. Pure sodium chlorate will slowly precipitate out of the solution as it is cooled in a fridge and the heating will have destroyed any remaining bleach (sodium hypochlorite). Filter and dry the crystals and store them in a sealed container.

The second method is very similar to the first. Weight out a **1200g of solid calcium hypochlorite (pool bleach) - A25** into a glass or metal container. Add **159g of sodium chloride (table salt) - A15**. Add enough boiling **distilled water - A12** to fully dissolve both powders. Heat the solution to maintain it boiling. A white substance will form (calcium chloride). Pour the still-hot solution through a filter and keep the liquid. Boil the water to evaporate it off and you will be left with sodium chlorate crystals.

The third method is electrolysis. There are so many ways to make electrolysis cells (look them up online) but the easiest are to find graphite or pressed charcoal anodes (positive) and steel plate cathodes (negative). You want a medium plastic container with a seal-able lid. The cathode and anode go through the lid (seal it with hot glue and epoxy), and also run a tube from the lid into a separate container filled with water (tap water will do). The purpose of this tube is to catch the chlorine and hydrogen gasses produced and put them into water so that they do not a- poison you or b-explode. Place the cathode and anode relatively close together (a few centimeters apart) to create higher temperature. The ideal temperature is 56C. If it gets too hot turn the power off and let it cool. If it gets too cold either wrap the cell in aluminum foil or increase the current. Place **454g of sodium chloride - A15** into **4L of distilled water - A1\***. You can add **33g of hydrochloric acid - A26** (whether as muriatic or in the purified form) or the equivalent of **sulfuric acid - B7**. Turn on the power, 3-4 volts, and wait. After some hours the liquid is removed from the cell and boiled until crystals form then cooled so more sodium chlorate precipitates. Filter out the crystals then repeat the boiling and cooling two more times. Keep the remaining liquid each time. After

this boiling and cooling add the liquid back into the cell with a fresh batch of salt water solution as detailed earlier. The crystals are sodium chlorate. Measure and record them and keep an eye on your yield. Electrolysis is a bit of a shit show and dark magic. Different tweaks can vastly increase your output. Tweak the temperature, the current, the spacing of the electrodes, the amount of acid, etc.

## ## B4.2 - Potassium Chlorate ##

Potassium chlorate can be prepared in four different ways.

The first three ways are the same as **sodium chlorate - B4.1**. Here are the differences:

For the first method (boiling **sodium hypochlorite - A14\*** conduct the same procedure but add **63g of potassium chloride - A16** to the solution. The crystals that precipitate will be potassium chlorate.

For the second method (boiling **calcium hypochlorite - A25**) instead of the sodium chloride add **220g of potassium chloride - A16**. However, after boiling the solution and filtering it (while still hot) to remove the calcium chloride, you do not need to boil it. Simply cooling will precipitate out the potassium chlorate, which can then be filtered out. Keep the solid crystals and discard the water.

For the third method, electrolysis, you make the same shit except you use **potassium chloride - A16** in the salt water solution instead of sodium chloride. The amount that dissolves into **4L of water** will be different, and you will likely also have to fuck around with the temperature, current, spacing of electrodes, acid, etc. Electrolysis is cool and can be quite efficient but is a shit show in terms of adjustments. Look up guides online there are thousands.

The fourth method of making potassium chlorate is a simple ion-substitution reaction. **Sodium chlorate - B4.1** is more soluble in water than potassium chlorate (our target). Create a solution of sodium chlorate (i.e. mix the **sodium chlorate** with **distilled water - A12** until all the crystals disappear). Then add **potassium chloride - A16** slowly. As you cool this mixture potassium chlorate should precipitate out, leaving you with potassium chlorate solid at the bottom and a mixture of sodium chloride and sodium chlorate in the water. Filter the water off and keep the solid. Dry it and store it in a container.

## ## B4.3 - Sodium Perchlorate

Sodium perchlorate can be made through two methods: electrolysis and thermal decomposition. For the quantities required in this guide thermal decomposition is probably preferable. If you want to make a lot of perchlorates go the electrolysis route.

Electrolysis perchlorate cells are a lot less sensitive than chlorate cells. The pH and temperature are a lot less specific and the main difference is in the anode/cathode (electrodes) materials. The cathode can continue to be steel. The anode on the other hand should be platinum (expensive) or lead dioxide (you have to DIY it) (this is not a lead dioxide anode guide, figure it out). You can make sodium perchlorate from **sodium chloride - A15**. No special need is needed from this, just make a salt water solution with a little acid and pop it into your steel cathode and titanium/lead dioxide anode cell. You can also make sodium perchlorate using **sodium chlorate - B4.1**. For this you will need **60g of sodium chlorate** for every **100mL of distilled water - A12**. Use a higher current for your perchlorate cell, about 5-7 volts. A higher current will increase the speed of the reaction but will also increase the wear on your anode. After a few hours filter out the solid from the water. You can reuse the water in your cell with new solution to top it off. Dry this and store it in an airtight container.

The thermal decomposition method of making sodium perchlorate is easier though it provides less yields. Take your **sodium chlorate - B4.1** and place it in a ceramic crucible. Place the ceramic crucible inside a carved out fire brick that has a hole for adding heat in. Heat it to 300-500C. You will likely need a butane torch or electric heat gun. Cover the crucible with either a crucible lid or aluminum foil. After 1-3 hours a slurry will remain, which is a mix of sodium chloride, sodium chlorate, and sodium perchlorate. Once it stops bubbling prepare a container with **acetone - A27**. Pour the slurry into the acetone and mix it well. Place the container with the solution into a hot water bath to ensure all the perchlorate dissolves into the acetone. Cool it down to room temp and then filter off the solids (which are chlorate and chloride and you can discard it or put it back into an electrolysis cell). Take the solution of sodium perchlorate and acetone and put it into a pan to boil off the acetone (do this in a well ventilated area to avoid breathing in fumes). The remaining powder is sodium perchlorate. Store it in an airtight container.

**!!WARNING!!** For both methods you have to destroy the remaining chlorate, especially since the main reason this guide is making sodium perchlorate is to make **ammonium perchlorate - B4.4**, and if you accidentally make ammonium chlorate *you will have a bad time*.

You can destroy the remaining chlorate through the following process: dissolve your sodium perchlorate mixture into **distilled water - A12**. You will need quite a bit of water. (You can also do this *before* you filter off the solid from the water after running your electrolysis cell.) To the solution add **hydrochloric acid - A26** (either purified or store grade). Add it slowly using a dropper and boil the solution. This will generate a yellow gas, chlorine dioxide. **!!WARNING!! Chlorine dioxide is toxic**. Do this outside or in an extremely well ventilated area. The chlorine dioxide will evaporate and some will stay in solution giving the liquid a yellow color to it. After boiling for 15 minutes no more gas should generate when adding drops of acid. Remove from heat and add **sodium hydroxide - A6** until the solution becomes clear/colorless again. It is better to have a basic solution than an acidic solution. You can add some **sodium bicarbonate - A5** to ensure there is no acid left. If it fizzes there is acid. Add and mix well until there is no more fizzing. Cool the solution so the sodium perchlorate precipitates out and then filter it off, discarding the liquid and keeping the solid. Store it in an airtight container.

## **## B4.4 - Ammonium Perchlorate ## ##**

Ammonium perchlorate can be made via one method with two different reagents reacting with **sodium perchlorate - B4.3**. The two ammonium reagents are **ammonium sulfate - A10** and **ammonium nitrate - A4**.

When mixing **sodium perchlorate - B4.3** and **ammonium nitrate - A4** use the following method: Take **122.5g of sodium perchlorate** and dissolve it in **150mL of distilled water - A12**. Heat the solution to 80C. Add **80g of ammonium nitrate**. Mix until both are dissolved while keeping the heat at 80C. Slowly cool the mixture to room temperature. Ammonium perchlorate will crystallize out. Filter that out and discard the liquid. Dry the crystals and store in an airtight container.

When mixing **sodium perchlorate - B4.3\*** and **ammonium sulfate - A10** use the following method: For every **100mL of distilled water** dissolve **61.26g of sodium perchlorate** and **33g of ammonium sulfate** at 80C. Once they are dissolved begin cooling. Sodium sulfate will precipitate out in a solid filter it out while the water is still warm and keep the liquid. Heat to 80C again and then cool quickly to room temperature. You should get ammonium perchlorate crystals. Filter off the

liquid and keep the solid. Dry the crystals and store in an airtight container.

You can, *and probably should*, dissolve the ammonium perchlorate in water, boil the solution and add muriatic acid to destroy any possible ammonium chlorate. Then neutralize the solution the same way that was done with the sodium perchlorate.

## ## B5.1 - Guanidine nitrate

Guanidine nitrate can be prepared through the following method: a 2L stainless steel is placed in a hot oil bath heated by a hotplate. Place **340g of ammonium nitrate - A4**, **200g urea - A3**, and **80g of silica gel - A13** into the stainless steel reactor container. Heat the oil bath to 195C. The mixture will melt and must be stirred for a total of 2 hours. Add another **150g of urea** and stir until it dissolves. Then let it sit for 2.5-3 hours at the 195C. After that time cool it to room temperature and remove it from the oil bath. Transfer it to a separate container that has **250mL of distilled water - A12**. Boil the mixture and filter it while hot to filter out the silica gel. Wash the silica gel and filter with **150mL of boiling hot water**. Collect all the water (guanidine nitrate solution) which has passed through the filter. Cool the solution to 0C which will precipitate out the guanidine nitrate. Filter off the water and collect the solid then put the solid into more water, boil it and cool it again to recrystallize it. Filter and dry. The yield should be 190-210g.

## ## B5.2 - Nitroguanidine

**!!Warning!! Nitroguanidine is an explosive.** It is a secondary explosive but should still be treated with care and caution. **Do not heat it above 150C.**

**300g of sulfuric acid - B7** is placed in a container inside an ice water bath. A salt ice water bath would be even better as you want this reaction to be quite cold. **100g of guanidine nitrate - B5.1** is added, as well as **29g of ammonium nitrate - A4**. The reaction will heat up so you want to add the ingredients slowly and keep refilling the salt-ice. Pre-cooling your ingredients in the fridge (for the acid) and freezer (for the solids) also helps. This will decrease danger and massively increase yields. Mix the ingredients that are reacting for 60 minutes. Keep it as close as possible to 0C, though up to 20C is okay. After an hour take the solution and pour into **1L of cold water with ice cubes** (tap water is fine here). This will precipitate out the nitroguanidine. **!!You now have an explosive!!** Let the ice melt (the water will rise to room temperature) and then filter out the solid crystals. Take the solid crystals and put them into boiling water. Wait until it completely dissolves. Add more water if it does not all dissolve. The liquid should be totally clear. Then take it off heat and let it cool to room temperature. The nitroguanidine will recrystallize as the water cools. Filter off the water and keep the solid. Dry it and store it in an airtight container.

## ## B5.3 - Aminoguanidine bicarbonate ##

**!!Warning!! Nitroguanidine is an explosive.**

Aminoguanidine bicarbonate requires the following ingredients: **41.14g zinc powder - A9**, **47.62g ammonium sulfate - A10** in **285mL distilled water - A12**, **20g nitroguanidine - B5.1**, **8.57g of 25% ammonia solution - B1**, and **28.57g sodium bicarbonate - A5**.

The instructions are as follows: weigh out your **zinc powder** and place it to the side. Place a reaction flask into an ice bath. Mix in the **ammonium sulfate** in **water** and the **nitroguanidine**. Stir the solution; not everything will dissolve. Place a thermometer and keep stirring. Once the solution reaches 10C begin adding small amounts of **zinc powder**. Monitor the heat and don't add too much at once. If

needed refill the ice bath. Keep the temperature between 5-15C, leaning towards the higher end to help the reaction. The addition of all the zinc should take about an hour. After keep stirring for about 30 minutes at 15C. Using a vacuum filter remove the zinc-oxide sludge and keep the liquid which should be yellow in color. Add the **ammonia solution** and the **sodium bicarbonate** while stirring until all the solids are dissolved. Stop stirring and let the solution stand for 12 hours. The aminoguanidine bicarbonate will slowly precipitate. Vacuum filter the solid to remove the liquid and keep the solid. Air dry the solid and store into an airtight container. The results should be 15.7g.

## ## B6 - Nitric Acid ##

There are two synthesis for nitric acid. The first requires **sulfuric acid - B7** and **potassium nitrate - A23**. The second is an electric method.

For the first method weight out **330g of potassium nitrate, 160mL of sulfuric acid, and 80mL of distilled water - A12**. Create a simple distillation apparatus. Have a large bucket of water nearby. Mix the potassium nitrate into the sulfuric acid and water and seal all your joints in your glassware with sulfuric acid (pour small quantities into the joints). This stops the nitric acid fumes from escaping since they are quite poisonous and corrosive. Place the solution into the heat end of the distillation and add heat until the solution starts to lightly bubble. Run the distillation for 2-3 hours and collect the resulting liquid. This is nitric acid. **!!Warning!! If at any point it begins to boil over dump it into your bucket of water.**

The second method requires a somewhat complex setup of electricity called the Birkeland-Eyde process. It uses an electrical arc to create pyrolyzed air which turns into nitrogen dioxide and which is then bubbled into water which makes nitric acid. You will need glassware for this reaction, plastic will not play well with the electricity. You will need an opening for air input, one for gas output, and a way to run current in. The metal cathode and anode are kept separate enough that an electrical current will form an arc of plasma between them. A copper spark gap will work. Using 35-40 watts is the ideal power input. Using an air pump will pump air into the glass container where the reaction happens. This will generate a red gas, which will continue to be pumped through the output tube. The gas dispersion tube needs to be at the bottom of the **distilled water - A12** to ensure that all of it goes into the water and forms nitric acid. This process will need multiple days to run.

## ## B7 - Sulfuric Acid

Sulfuric acid *can* be bought as drain cleaner in relatively pure forms (except for some dye which should not affect most processes, but you can still run a purification if you want to). It can also be bought as battery acid in car stores, though it is quite expensive in this form.

However, sulfuric acid is often tracked quite extensively as it is a common precursor (and a weapon in itself). So there is a way to synthesize it using **magnesium sulfate - A24** and electrolyzing it with a lead dioxide/carbon (graphite) electrode (either works) and a copper electrode. You need a glass baking dish and a unglazed clay pot with no hole in it. Weight out **246g of the magnesium sulfate**. Place it the glass dish. Place the clay pot into the glass dish removed from the magnesium sulfate. Fill both the clay pot and the glass dish with **distilled water - A12**, at minimum **1L** so that the salt is dissolved. Make sure that the copper electrode is clean and use it to stir the magnesium sulfate to dissolve most (but not all) into the water. Place the copper electrode into the glass dish with a part

extending out. This is your cathode (negative) end of the current. Place your lead dioxide/carbon (graphite) electrode into the clay pot that is holding only water. This is your anode (positive) electrode. Connect your cathode and anode to a 12-24V electric output. The sulfuric acid will be generated at the anode inside the clay pot. The outside solution will turn from magnesium sulfate to magnesium hydroxide. The water in the clay pot will also decrease through osmosis as it tries to head towards the salt, keep filling the clay pot with distilled water. Stir occasionally to continue dissolving the magnesium sulfate (magnesium hydroxide will not be soluble and will form a solid layer at the bottom). After ~72 hours the solution in the clay pot will be sulfuric acid (with some of the material from the anode if you used carbon graphite) (and it will likely look pink from clay particles). Decant the liquid (and filter off the solid material). You can concentrate it further by boiling the liquid until you see white fumes (or until it reaches 337C which requires boiling off most of the water). This will give you 98% sulfuric acid. From 246g of magnesium sulfate ideal output would be 54.4mL. Place it in a seal-able container.

## **## B8 - Hydrazine solution ##**

**!!WARNING!!** Hydrazine is extremely poisonous. If you can smell ammonia you are fucked. **Wear full facial protection (eyes, nose, mouth) when making or using hydrazine.** Ventilate your work space extremely well, and avoid any exposure to animals or humans. **!!WARNING!!**

Synthesis: **32g of sodium hydroxide - A6 (lye)** is added to **150mL of distilled water - A12**. This will create heat. Let it cool. Then add **26g of 10-12% sodium hypochlorite - A14** to a separate beaker (note that this reaction uses "pool bleach" not household cleaning bleach). Chill both solutions in ice baths. Then add the lye solution to the bleach. Separately measure out **1g of gelatin - A21** and **22g of urea - A3**, and mix with **100mL of distilled water - A12**. Heat and stir the bleach/lye solution and add the gelatin/urea solution. Heat at 85C and stir it. **!!Warning: there is now hydrazine in solution and some will evaporate, this is where the danger really begins!!** The majority of the bubbles will be carbon dioxide leaving the solution. Heat and stir for 20 minutes while most of the CO2 dissolves and leaves the solution. Transfer to an airtight seal-able container. (In fact put that container into another airtight seal-able container just to be safe that you're not leaking hydrazine anywhere.)